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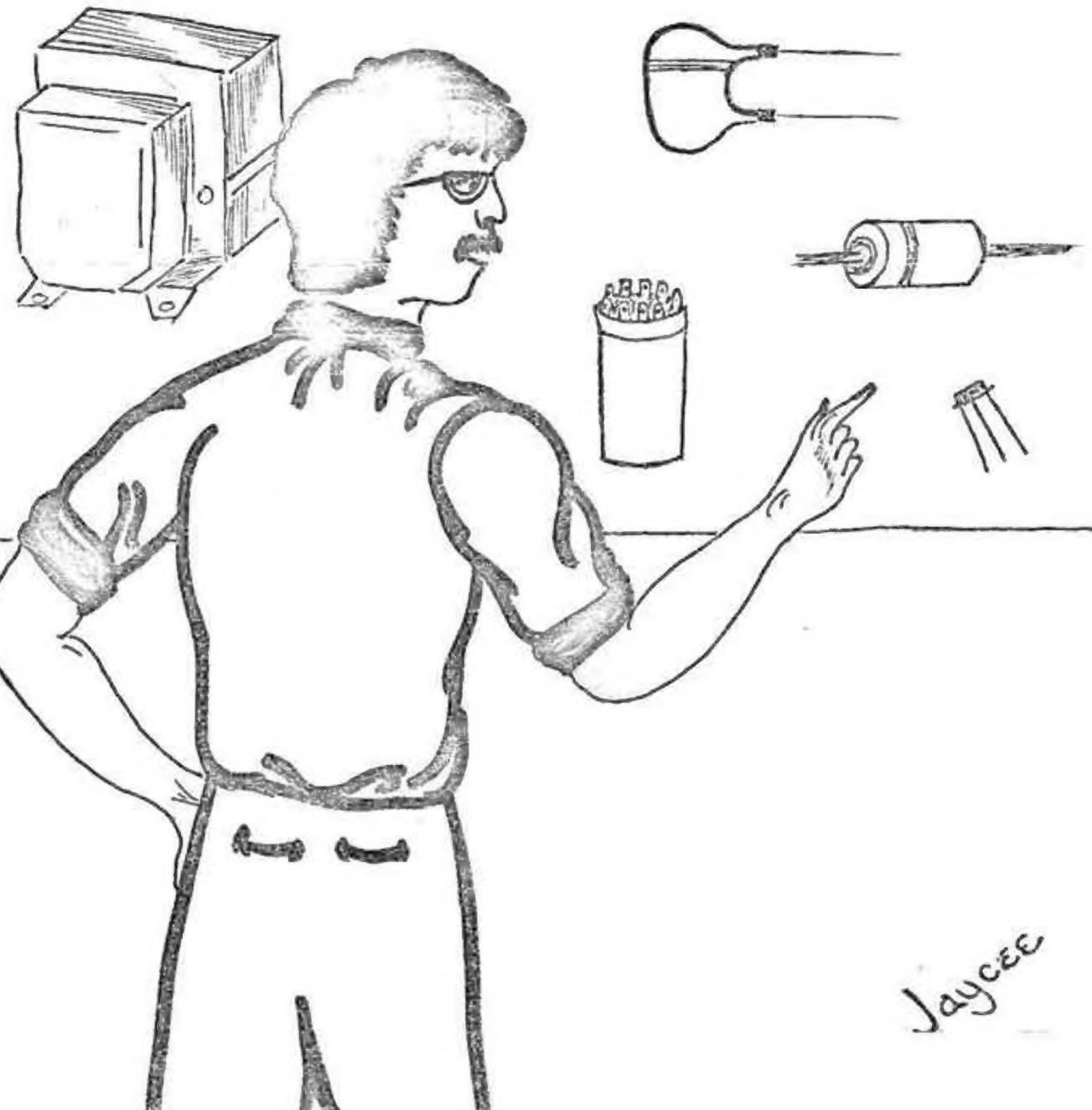


ORANGE COUNTY AMATEUR RADIO CLUB

VOL. XVI, NO. 2

P.O. BOX 95, ORANGE, CALIF. 92668

FEBRUARY 1975



— 1975 CLUB OFFICERS —

PRESIDENT	ART SHELDON	WA6LHB	832-9676
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	KEN KONECHY	W6HHC	541-6249

EDITOR NEIL VADNAIS WA6TZA 839-7378

OCARC ACTIVITIES

MEETING: 3rd Friday of each month, 7:30 PM at:

Mercury Savings and Loan
1095 Irvine Blvd. (4th Avenue)
Tustin, California

G U E S T S A R E A L W A Y S W E L C O M E ! ! ! !

BREAKFAST: 1st Saturday of each month, 8:30 AM at:

Barnaby's Coffee Shop
144 South Tustin Avenue
(just South of Chapman and Tustin Avenues)
Orange, California

15M NET: Club Station W6ZE meets every Wednesday
at 8:00 PM on 21.375 mhz. All amateurs
are welcome to check in. Club and ARRL
bulletins read.

15M CW NET: Club Station W6ZE meets every Wednesday
evening from 7PM to 8PM on 21.175 mhz.
All amateurs are welcome to check in.
Lots of CW practice for everyone.

CALLBOOK SERVICE

The club has copies of the latest U.S. and foreign callbooks which are available at each meeting. Also you can contact Bob Maller-WB6AJV at home (832-6170) on Monday and Thursday evenings between 7 PM and 9 PM if you need addresses. If you have more than one call for Bob to check, he'll get them all and call you back the same night. Also, you can usually catch Bob on the air after the Wednesday evening club net.

"RF"

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FEB. 1975

THE PREZ SEZ:

I would like to thank Bob Evans, WB6IXN, for the great program on White Holes, Black Holes, and Creation he presented at the January meeting. Another very informative program Bob.

Congratulations are in order to all club members who participated in last years Field Day. Again this year we received the Field Day Competition Plaque. It was presented at the January meeting by Bill Weise, W6CPB, our SCM. Again CONGRATULATIONS!!

An ocean fishing trip is being planned for Saturday, July 12. This will be an all day affair out of Dana Point for some local waters fishing. Those interested should get in touch with our Activities Chairman, Bob Maller, WB6AJV, at 832-6170 for details. Also, if you haven't filled out the questionnaire that was mailed in the December RF, please fill it out and return it to Bob.

Again this month I would like to mention that Club Dues are now due. If you haven't renewed your club membership, see Ted, K6LJA, our Treasurer.

See you at the February meeting.


Art WA6LHB

OPERATING EVENTS:

FROM THE PAGES OF QST

FEB 22-23	YL-OM CONTEST PHONE FRENCH CONTEST PHONE VERMONT QSO PARTY	MAR 8-9 14 15-16	YL-OM CONTEST CW W1AW QUALIFYING RUN DX COMPETITION CW
MAR 1-2 6	DX COMPETITION PHONE WEST COAST QUALIFYING RUN	22-23	TENNESSEE QSO PARTY BARTG SPRING RTTY CONTEST

THIS MONTH'S PROGRAM:

Our program this month will be presented by Bob Eckweiler, WB6QNU, and is entitled "OP AMPS". Looks like a FB program.

FOR SALE:

TEMPO ONE TRANSCEIVER WITH A/C POWER SUPPLY AND REMOTE VFO.
BTI LINEAR WITH A 3-1000Z.

For info contact Ron Cade, WA6FIT at 897-8059

IS YOUR CALL LISTED HERE????

WB6DJL...WN6DEI...WN6COT...WN6CIT...WA6CIV...WB6DUU...WN6ECR...WN6DTK
WN6DVC...WN6DXF...WN6DIF...WN6DMG...WN6BGX...WN6BFQ...WN6COU...WN6DAB
WA6CSH...WN6CSI...WN6CEV...WA6CVF...WN6EJZ...WN6EJI...WN6EGI...WN6DEX
WB6DEP...WN6EJP...WB6CZH...WB6DOE...WN6CGZ...WB6CQS...WN6EHD...WN6EFV
WN6CUB...WN6DME...WN6DFI...WN6DFO...WN6CZP...WN6DFK...WN6BGZ...WN6CZI
WN6DPR...WN6LBB...WN6EFS...WN6EFT...WN6DMM...WN6DKK...WN6EJY...WN6BHN
WA6CIL...WA6BCT...WN6TDT...WA6ELF...WN6BNF...WN6BWW...WN6BOM...WN6BUE
WA6BDZ...WN6BQC...WA6BIU...WN6BIZ...WN6BCB...WN6BRY...WB6HLY...WN6EDP
WN6HOX...WB6GTM...WN6HDM...WN6HBR...WA6HOA...WA6GOF...WA6GWH...WB6GSD
WN6GUM

If your call is one of the above, we welcome you to the Orange County area if you have just moved here... and if you are a Novice, we welcome you to amateur radio.

This copy of "RF", the official publication of the Orange County Amateur Radio Club Inc. is being sent to you as a friendly gesture and our way on inviting you to attend our next meeting which will be held on February 21, Friday evening at the Mercury Savings And Loan Co., 1095 Irvine Ave., Tustin... time 7:30 P.M.

The Orange County Amateur Radio Club is the oldest "HAM" club in Orange County consisting of members living in all parts of the county. The members participate in all "HAM" activities, builders, experimenters, DX'ers, faxsimili, field day (impressive and outstanding record), ect.

Assistance is generously given to the Novice Class. CW practice on the air, every Wednesday evening at 7:00 P.M. on 21.175. A phone net meets every Wednesday evening at 8:00 P.M. on 21.375. We hope to see you at this or any future meetings. Come meet with your local "HAM" friends and those with the same interest as yours.

The Orange County Amateur Radio Club

"RF"

ORANGE COUNTY AMATEUR RADIO CLUB

FEB. 1975

JANUARY BOARD MEETING:

A Board meeting was held on January 7th at Art's house at 8:30 P.M. Present were: Art-President, Martin-Vice President, Harold-Secretary, Roger-Publicity, Bob-Activities Chairman, Tina-Membership Chairman, Bob=T.V.I., Ted-Treasurer, Ken and Kei- Members at Large, and Abe, WA6UCS.

The following items were discussed: Abe, WA6UCS was appointed as Teenage Rep. for this year. It was asked that anyone with an articles for "RF" to give them to Neil. The ARRL Report, Quarterly, and Tax report were reviewed. A Finance Committee was appointed to audit the books. They were: Ted, K6LJA, Bob, WB6AJV, and Harold, WA6BJO. It was decided to order 10 more badges as there are only two blanks left for issue. The yearly raffle was discussed. The proposed prizes to be: 1st \$100, 2nd \$50, and 3rd \$25. Martin, Kei and Bob were appointed to find out what could be purchased at these prices. It was mention that a membership drive be started and a class on code and theory be organized. The meeting adjourned at 10:10 P.M.

JANUARY MONTHLY MEETING:

January 17, 1975

Meeting was called to order at 7:45 P.M. by President Art, WA6LHR .

All Officers were present at roll call.

Discussion of the 1975 Annual Raffle:

Motion: Provide 3 prizes for the annual raffle. 2nd and passed.

Motion: Club Board of Directors given authority to select 3 prizes. 2nd and passed.

Motion: 1st and 2nd prize winners need not be present to win. 3rd prize winner must be present to win. If 3rd prize winner is not present at the Annual Christmas Party, a new ticket will be drawn. 2nd and passed.

A fantastically interesting program presented by Bob Evans, WB6IXN entitled, Black Holes, White Holes, and Creation.

FCC Docket 20282, Restructuring Amateur Rules presented by Bill Weise, W6CPB, SCM Orange Section.

ART, WA6LHB, presented Bill Weise, W6CPB with a club check for \$150.00 as winner of the 1974 Annual Raffle.

Meeting adjourned.

TOPIC FOR THE FEBRUARY MEETING: OPERATIONAL AMPLIFIERS

What is an Operational Amplifier???

The operational amplifier, or op-amp is a very high gain bipolar amplifier exhibiting very high input and very low output impedance. Don't let the word bipolar throw you, it means only that the amp is capable of handling signals of either polarity. When wired up with proper feedback between the output and input this amplifier can perform many electronic feats including amplify, filter, oscillate, etc., with a minimum of external components.

Originally these op-amps used tubes and were very complex and expensive. They were used mostly in analog computers because of their ability to sum voltages with extreme accuracy. Later discrete solid state op-amps came on the market and the prices dropped to the \$25 to \$100 range. At this price they were used in expensive test equipment and instrumentation. However with the advent of micro electronics and monolithic construction prices have dropped on many general purpose op-amps and now they are available to even the lowest budgetted experimenter. A new 741 op-amp sells around 70¢ and more sophisticated devices are in the \$2 to \$5 range.

At the February meeting I plan to present some basic theory on the op-amp and the practical aspects of making the circuits work. We will start with the 'perfect' op-amp and design up some circuits, then cover the 'real' non-perfect op-amp and cover the shortcomings. Finally I will discuss circuit and construction practices that will help prevent you from discovering the famous op-amp paradox:

ALL OP-AMP OSCILLATORS AMPLIFY AND VICE VERSA.

Through some simple assumptions we will be able to skip some of the more complicated mathematics and make the op-amp very easy to understand. For a matter of fact if we're lucky the only math we will need is Ohm's law and possibly the equation for capacitive reactance.

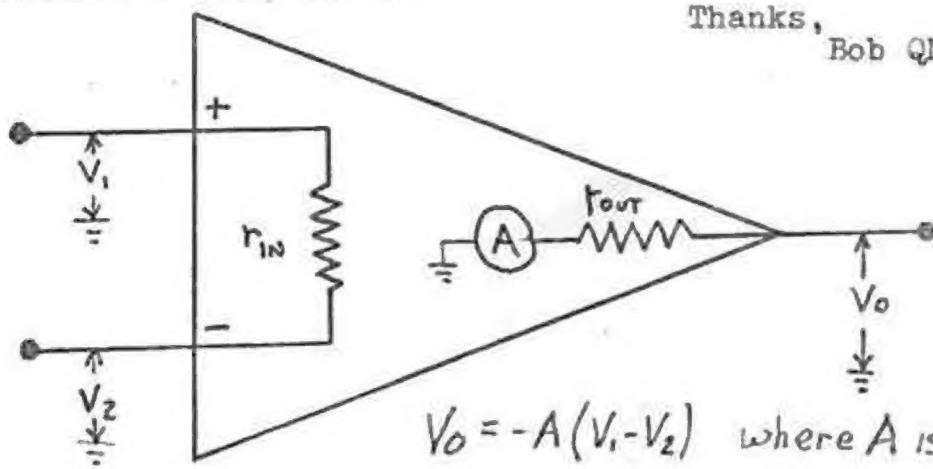
$$X_C = 1/(2\pi f C)$$

There is no reason why anyone capable of getting their ham ticket cannot become op-amp experimenters and use them in their next project successfully!

One Word of Caution!! This is going to be a talk designed to get experimenters interested in op-amps. Those who know more than me please refrain from turning this 'dog and pony show' into a symposium of IEEE PhD's.

Thanks,

Bob QNU



$$V_0 = -A(V_1 - V_2) \text{ where } A \text{ is op-amp gain}$$

THEFT, THE HAM and HOW NOT TO BE A LOSER!

.... via Jan. 1975 73 magazine

The new car pulled into the old-timer's driveway, and a very youthful lad hopped out.

"Hi, did you copy me ok on the way from the dealer?"

"Sure did, young fella, just how much gear have you got in that car?"

The lad opened the door wide, and the old-timer noted a first-rate transceiver, power supply and SWR bridge mounted beneath the dashboard. "Tommy, you've done a real good job of installing your equipment, but have you given any thought to protecting it?"

"What do you mean? I've fused all the lines and made sure that I installed ignition bypass capacitors."

"Tommy, that's not the protection I had in mind. I figure you've got maybe six hundred dollars worth of ham gear in the car - have you got that investment protected?"

"I'm not sure . . . maybe I should install a burglar alarm or something . . ."

"Tommy, it's that 'or something' that you should pay attention to. With an investment as large as yours, you should do more to protect it than just install a burglar alarm or keep the doors locked. Come on inside - we'll have a cup of coffee and I'll explain what I mean - don't forget to lock the car, first!"

The two hams entered the house and sat at the kitchen table. The old-timer brought out a pencil and paper along with two steaming cups of coffee.

"Tommy, the first thing any ham should do when he installs his equipment anywhere is to record all of the serial numbers and put this list away in a safe place, together with the bill of sale for the equipment. Second, let's take a look at your auto insurance policy. Do you have it in the car?"

"Yes, wait one and I'll get it."

While Tommy went for the policy, the old-timer stoked his battered pipe and waited.

"Here she is."

"Ok, let's look at the fine print - seems like you are covered for property damage, liability, collision and uninsured motorist . . . hmm, that's in order . . . but let's take a long look at your fire and theft policy. Good! Just what I was hoping for - you've got comprehensive."

"What's that mean?"

"Basically, Tom, that means anything firmly affixed or attached to the car as an accessory will be covered for fire or theft. A lot of times people don't take the comprehensive theft package, and when something happens they find that they weren't insured for their losses. It might not be a bad idea for you and me to load up my Polaroid and take a ride down to Mr. Jones' office, who is a notary public."

"Any special reason, old-timer?"

"Yes, one of the best - now would be the best possible time to establish that the equipment is really firmly mounted in your car."

"Ok, I'm game, but why do we need a notary and a Polaroid?"

"What we will do is shoot a number of photos of the equipment installed in your car in the presence of Mr. Jones. He, in turn, will note on the back of the photo that he observed the equipment mounted in your car and will verify the serial numbers, and apply his seal over the whole works. This will establish proof that the equipment is mounted in your car and that the serial numbers agree. In case of loss, this becomes valuable proof for you when you submit a claim to your insurance company."

"Old-timer, you're putting me on. This seems like a lot of unnecessary work to go

through. I always lock my doors and never leave the keys in the car!"

"Tom, come on downstairs, I want to show you something."

They went down to the old-timer's workshop, where on top of a shelf was a bent transceiver mount. The old-timer blew the dust off it and set it down on the bench.

"Tom, this is all I have left from the six meter rig I used to have in my car. I locked my doors, and wasn't away more than five minutes, but when I returned, the vent window had been sprung, and the rig, my car radio, and a jacket were gone."

"Ok, I'm sold, let's go over to Mr. Jones' office and get it over with!"

Theft of amateur radio equipment and audio accessories is on the increase. In order to protect your investment, record your serial numbers, have proof of installation, and be sure you have insurance coverage - either a comprehensive auto-theft policy - or maybe one of the homeowner's insurance policies that cover personal belongings . . . and always remember to lock your car and take the keys with you. . . . W9KXJ

"RF"

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FEB. 1975

THIS MONTH'S MEETING

THE PROGRAM AT THIS MONTH'S MEETING WILL
BE GIVEN BY BOB ECKWEILER, WB6QNU, AND IS
ENTITLED "OP AMPS," GEARED FOR THE
EXPERIMENTER . . . SOUNDS GREAT!!!

ORANGE COUNTY AMATEUR RADIO CLUB, INC.
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Benjamin West



American artist
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DATED MATERIAL !!!

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